



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

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OFFICE OF  
PESTICIDES AND TOXIC  
SUBSTANCES

**MEMORANDUM**

**SUBJECT:** Classification of Allium sativum (Garlic; Case No. 4007)  
as a Conventional Chemical or as a Biochemical Pesticide

**FROM:** J. Thomas McClintock, Ph.D., Microbiologist  
Science Analysis and Coordination Branch  
Health Effects Division (H7509C)

JTM  
11/12/91

**TO:** Jay Ellenberger, Chief  
Accelerated Reregistration Branch  
Special Review and Reregistration Division (H7508C)

**THROUGH:** Reto Engler, Ph.D.  
Senior Science Advisor  
Health Effects Division (H7509C)

and

Fred Betz, Biologist  
Science Analysis and Coordination Staff  
Environmental Fate and Effects Division (H7507C)

*[Handwritten signature of Reto Engler]*  
*[Handwritten signature of Fred Betz]*

**ACTION REQUESTED:** The Special Review and Reregistration Division (SRRD) has requested that SACB and the OPP Biotechnology Workgroup reevaluate Allium sativum (garlic) to determine if the active ingredient should be classified as a conventional chemical or as a biochemical pesticide.

**BACKGROUND INFORMATION:** Garlic is the fresh or dehydrated bulb or cloves obtained from Allium sativum, a plant belonging to the lily family. Natural derivatives of garlic include essential oils, oleoresins, and extracts. One such derivative is finely ground garlic bulbs (known as garlic powder) and is commercially available for flavoring and seasoning. The proposed active ingredient is extracted and distilled from garlic cloves and, when mixed with capsaicin (red pepper), is used to repel birds. Garlic is generally recognized as safe (GRAS) under 21 CFR 182.10 (spices and other natural seasonings and flavorings) and 182.20 (essential oils, oleoresins [solvent-free] and natural extractives [including distillates]) as affirmed in 184.1317 (garlic and its derivatives).

**CONCLUSION:** Based on the information provided garlic is a naturally occurring plant constituent which has been used for centuries as a food additive and is GRAS according to FDA criteria. In addition, garlic appears to repel the target pest without toxic effects. SACB and the OPP Biotechnology Workgroup would recommend

that garlic be classified as a biochemical pesticide PROVIDED THAT the product is harvested as described and that the manufacturing process used to produce the subject compound ensures the absence of hazardous components or materials.

cc: Margarita Collantes, ARB/SRRD